INDEX TO

FIRE ENGINEERING

Volume LXXXII—From January 1 to December 31, 1929

ACCUSATION, unjust (edit.) 549
Aerial ladders, loud speakers on (ill.) 65
Ahrens-Fox appoints Western Agent 1148
Aid, mutual, between city and town f. depts. 1037
Aid to outside towns 196
Air and water pressures (Q. & A.) 771
Airplane brings food to stranded f'men 770
Airplane cloth plated with nickel 410
Airplane hangars, sprinkler sys. puts out fires in (ill.) 1098
Airplane passengers, cigarette hazard of (ill.) 936
Airplanes destroyed by welding torch flame (ill.) 822
Airplanes, fire extinguisher tests in (ill.) 954
Air races, f. extinguishers shown at (ill.) 972
Akron hotel f. (ill.) 108
Alameda Co. F. A. planned 1148
Alameda telephone men give first aid work (ill.) 509
Albany, Ga., lowers f. record 60
Allen, Ch., Points out dangers (ill.) 684
American f. app. to be exhibited in Spain (ill.) 825
Amer.-LaFrance announces new app. (ill.) 1062
American-LaFrance app. exhibited at conv. (ill.) 1148
American-LaFrance ends labor dispute 374
American-LaFrance Utica branch moved 774
American pumper test in Siam (ill.) 1190
Ames f'men expert first aid workers 374
Ammonia explo. in Brooklyn (ill.) 112
Amusement resort fires (ill.) 405
Amusement resorts fire in Ocean City (ill.) 1095
Anderson new f. alarm head in Bridgeport 63
Apparatus crashes, cities liable for 465
App., f. protective, wanted (Cor.) 1058
Apparatus, giving, right of way (edit.) 17
Apparatus, home-made, risky 119
App., reducing accidents to (Round Table) 185
App., speed of, respond. to and return. from f. (Round Table) 1043
Archer, Dr., heads eastern special 858
Archer, Dr., ordered to keep away 870
Ariz. S. F. A. program 236
Arlington new f. station (ill.) 691
Arson committed as long as profitable 868
Arson, curing America of 853
Arson, ex-convict charged with 1053
Arson law, Colo. to act on 66
Arson law, W. Va. considering 104
Arson laws, loopholes in present 679
Arson squads and reduced f. loss (edit.) 101
Arson work, report issued on 60
Arsonist, new law will curb 1173
Arsonists, curbing 733
Atlanta f. d., ch. Coty of, dies (portr.) 1090
Atlantic City pier f. (ill.) 370
Atlantic City 2nd Alarmers Assn. meet 869
Augusta, Kennedy, ch. of, married (portr.) 278
Augusta, two alarms in day at 818
Austin, two new f. stations for (ill.) 456
Auto. tent f. lesson (edit.) 235
Aviation adds new danger to forest conserva. (ill.) 728
Aviation brings new f. d. problems (ill.) 1174
Aviation, f. hazards from (edit.) 769
Aviator serves as f. alarm 110

BACK numbers, who needs? 146
Bacon, J. R., new ch. of Weymouth 1144
Bakery, steam, hazards of (Q. & A.) 103
Barry dist. mgr. of Eureka (portr.) 289
Baton Rouge safety parade (ill.) 52
Beaumont, Tex. against raises 776
Beers, ex-f. marshal a Miami booster 737
Beggin, dep. chief of N. Y. dead 24
Belknap (Boston has some unusual fires) 514
Be'knap (Box 52 Assn. hold banquet) (ill.) 1151
Belknap (F. alarm bldg. and new sta. in Newton) (portr-ill.) 1096
Belknap (Nantasket excursion boats f. (.ill.) 1183
Belknap (N.E.A.F.C. conv. report) 587
Belknap (New Haven f. dept.) (portr.-ill.) 491
Belknap (Worcester, Mass. salvage corps) (ill.) 497, 547
Belmond, Ia., sugar warehouse f. (ill.) 240
Belmont, Mass. new fire sta (ill.) 60
Berger, Gus L., who knew (ill.) 776
Beutler (Vol. f'men must select proper leader) 567
Birmingham f. dept. (ill.) 917
Blake (Forming salvage patrol) 144
Bogan, ch. honored by Baton Rouge (portr) 188
Bogan (Dry cleaning plant hazard, control of) (portr) 1017
Boiler explo. in Wash. D. C. (ill.) 1126
Boles (Birmingham f. dept.) (ill.) 917
Booster pump and chemical tank (Q. & A.) 859
Booth, G. W., dinner tendered (portr) 1099
Booth (Relation of f. d. equip and personnel to population) (portr) 1131
Boston church f. (ill.) 1049
Boston f. apparatus, bad accident to 328
Boston f'men hold golden ball 152
Boston has some unusual fires 514
Boston paint store f. (ill.) 280
Boston, new rule in, saves lives 1042
Boston plans new f. sta. (ill.) 504
Boulden, ch., Winnipeg, youngest f. chief (portr) 502
Boulden (Fighting fires in icy weather) (portr) 1041
Box alarm, sounding on receipt of "still" (edit) 1045
Box 52 Association elects officers 1002
Box 52 Assn. hold banquet (ill.) 1151
Box 52 Assn., Parker heads 1095
Box 52 Association visits N. Y. 372
Box 4 holds annual dinner 110
Boy scouts f. prev. work (ill.) 152
Boyd, ch. Knoxville, dead (portr) 280
Boyd, J., app. builder dead (portr) 1138
Braddock, Pa. lumber yd. f (ill.) 1095
Brennan named San Francisco f. chief 1097
Bridgeport lowers f. loss 68
Bridgeport lumber dist. f. (ill.) 246
Brighton, N. Y., G. C. Gordon, f. commr. of (portr) 1097
Bronx apt. house f. new (ill.) 773
Bronx fires, racketeers charged with (ill.) 643
Brooklyn chair factory f. (ill.) 1090
Brooklyn f'men have busy session 502
Brooklyn macaroni plant f. (ill.) 731
Brooklyn tenement f. (ill.) 63
Brosnan ch., to be named for second v. pres. 242
Brosnan (Fire inspections, increase) (portr) 767
Brosnan (Is salvage work justified?) (portr) 53
Brush f. in Hollywood (ill.) 1136
Buffalo Appliance, Prescott with 459
Buffalo battalion chiefs ques. (Q. & A.) 237
Buffalo, McConnell, ex-chief of, dead (portr.) 1188
Buffalo ques. & ans. (Q. & A.) 104, 147
Bldg. code, following up violators (edit) 191
Bldg. exits, standardization of 1140
Bulgarian arsenal explo 378
Butts from plane may start forest f 774
Butts, open, discharge from (Q. & A.) 237
Butts, open, discharge from (Q. & A.) 279

CABIN colony guarded by f. (ill.) 867
Cal, forests, apparatus for (ill.) 1013
Cal. forests, burning up (edit.) 727
Cal. S. F. A., Taft to bid for conv 230
Cal. third oil f. (ill.) 505
Cal. S. F. A. to meet 636
Cambridge f'men stop bad fire 1053
Camp f. nearly wipes out town 775
Campbell, chiefs' club honors 425
Canadian convent, lightning destroys (ill.) 688
Capital punishment for negligence 736
Carbide lights used by f. ins. patrols (ill.) 194
Carbon dioxide to smother and cool fires 509
Carbon dioxide used on gas f 512
Cedarburg, Wis., new pumper (ill.) 462
Cellar fires, fighting (Cor.) 630
Cellar pipes (Q. & A.) 19
Central Cal. F. C. A., meet 241
Central f. house urged for Poughkeepsie 151
Charleston discovers old f. record 814
Charlesworth (Changes to benefit R. I. vol f'men proposed) 16
Charlotte business sec. fire (ill.) 418
Chattanooga hotel f. (ill.) 417
Chelsea, Mass., tire yard f. (ill.) 776
Chemical tank and booster pumps (Q. & A.) 859
Chicago f. d. engr. designs switchboard (ill.) 54
Chicago f. in zero weather (ill.) 196
Chicago hotel chute f. (ill.) 820
Chicago needs 6,000 boxes 194
Chicago new f. house 230
Chicago paper factory f. (ill.) 457
Chicago warehouse f. (ill.) 108
Chief must be showman as well 972
Chief's recommendations, ignoring (edit.) 145
Chimney fires, extinguishing (Round Table) 933
Chimneys, clean & f. prev. (edit.) 57
Christmas, preparing for (edit.) 1091
Church f., fighting the (ill.) 271
Church f., four alarm (ill.) 1183
Church f. in Boston (ill.) 1049
Cigarette hazard of airplane passengers (ill.) 936
Cities liable for app. accidents (edit.) 413
Cities or f'men, when liable for injuries inflicted 1129
Clapp and Jones engine, old, who has? 98
Clarion, Pa., municipal hall and f. house (ill.) 404
Clark, Wm., hero of Windsor hotel f., dies 642
Cleveland disaster, toxic gases at (Q. & A.) 595
Cleveland hospital disaster (Cor.) 825
Cleveland hospital explo., cause of (ill.) 445
Cleveland hospital holocaust, report on 458
Clovis, N. M., f. dept. zoo 505
Coal piles, overcoming f. in (ill.) 559
Cody, ch., Atlanta f. d., dies (portr.) 1090
Cody, ch., observes 51st anniversary 651
Coffee car for Pasadena F. D. (ill.) 559
Coleman ex-ch. Miami, dead 1048
Colleges for firemen (ill.) 925
Colo. f'men to meet in Greeley 601
Colo. to act on model arson law 66
Combustibility, classes of (Q. & A.) 19
Compensations, pensions and the law 227
Conductivity of f. streams, etc. (Q. & A.) 730
Conflagrations and frame areas (ill.) 493
Conn. S. F. A. conv. account (ill.) 775
Conv., should city send chief to (edit.) 857
Conventions, f. dept. (Round Table) 591
Cook (Good roads bring better f. prot. to rural sections) 253
Coombs, ch. of Syracuse, dead (portr.) 1011
Cos Cob f. st. opening delayed (ill.) 1053
Cotton and hay fires, overhauling (ill.) 253
Coyle, ch., of Omaha, dead 414
Crile, Dr., to talk to f. surgeons 688
C. T. C. evaporation of (Q. & A.) 859
C. T. C. vaporization temperature (Q. & A.) 193

DALLAS f. d. heads (ill.) 102
Dallas plans to secure pay increases 245
Daly (Ch. O'Hanlon designs flexible nozzle) (ill.) 1106
Daly (Gaso. truck co. charges N. Y. with patent monopoly) 65
Daly (National Board report commends N. Y. f. d.) 1002
Daly (N. Y. f. college course) 368
Daly (N. Y. f. prev. bu., problems of) 1092
Daly (N. Y. movie studio f.) (ill.) 1181
Daly (N. Y. to build electric drive f'boat) 286
Daly (N. Y. unfinished apts. destroyed) (ill.) 602
Daly (Oil barge f.) (ill.) 862
Daly (Raises urged for N. Y. f'men outside first grade rating) 1190
Daly (Resuscitation practice urged) 932
Daly (Underwriters to make survey of N. Y.) 328
Daly, W. J., undergoes operation 386
Davenport, ch. Denger, dead (portr.) 458
"Dead," how it feels to be 109
Denger, ch., Davenport, dead (portr.) 458
Denger, ch. of Davenport, to resign (portr.) 324
Denver, ch. Healy of, praised (portr.) 335
Denver, ex-drillmaster Martin of, dead 816
Denver f. alarm, D. Reed, head of, dead 1102
Detroit. batt. chiefs have new cars (ill.) 510
Detroit f. headquarters (ill.) 922
Detroit new f. headquarters (ill.) 550
Detroit night club f. (ill.) 955
Detroit wins f. prev. prize 296
Des Moines, asst. ch. Taylor of, dead 975
Des Moines f. d., unselfish act of (edit.) 367
Detzer (Confession of a fire fan) (ill.) 927
Distillery, f. uncovers 358
Doane, ex-chief, Plainfield, dead (portr.) 18
Dobbs Ferry, N. Y., new pumper (ill.) 250
Dockhead f'house in London, Eng. (ill.) 1099
Dr. Fire-Fighter (ill.) 919
Doctors, rivaling (edit.) 367
Dominion A. F. C. hold conv 688
Dominion A. F. C. plan for convention 1178
Dominion A. F. C. to meet in Cobourg 502
Dougherty (Automatic f. vents to save life) 629
Dougherty, ch. wins coveted medal (portr.) 421
Dougherty (F. dangers of modern refrigeration) (portr.) 717
Dougherty gives advice to young N. Y. F. D. officers 728
Drill school for Knoxville f. d. (ill.) 936
Drill tower in Los Angeles (ill.) 1170
Drills, frequent, should be held 635
Drivers, are, protec. by insurance against accident? (Round Table) 1087
Dry cleaning plant hazard, controlling 1017
Dust hazard and the chief (edit.) 727
Dye plant f. in Poughkeepsie (ill.) 732
Dynamite theory "exploded" (edit.) 235

E. A. F. C. conv. program (portrs.) 596
E. A. F. C. conv. report (ill.) 631
E. A. F. C. to meet in N. Y. 559

360516

E. A. S. F. & P. T. meeting 24
Eastern chiefs have enjoyable trip 1051
Eastern regulars visit Cincinnati 1058
Egyptian F. F. A. has effective card 245
Egyptian F. Fighters meet 959
Egyptian f. fighters to meet 1048
Electricity, static, probably (Q. & A.) 327
Elevator, rescue of person trapped in (Q. & A.) 641
Ellett, supt. f. alarm sys., Elmira, dead 1128
Elmira f. alarm head dead 1128
Elmira mercantile bldg. f. (ill.) 1139
Elmira plans f. school 289
Elmira warehouse f. (ill.) 21
Elmira zone school successful 416
Engine, capacity of (Q. & A.) 1093
Engine pressure, calculating (Q. & A.) 1047
Engine pressure for standpipe layout (Q. & A.) 730
Engine pressures and steam range (Q. & A.) 771
Engine pressures and stream range (Q. & A.) 815
Engineer, questions for (Q. & A.) 815
Engines, how many? (Q. & A.) 1047
Espey, ch., Elmira, in dept. 25 yrs 508
Eureka makes Barry dist. mgr. (portr.) 289
Evans, ch., holds reception at conv. (ill.) 1046
Exhibitors, obligations to 805
Exits, closing of (edit.) 857
Experience, failing to profit by (edit.) 17
Explo., mysterious, wrecks home 98
Explo., termites may cause 829
Explosions, insulation blamed 326
Extinguisher, siphon type, on market 378
Extinguisher, soda-acid, new (ill.) 465
Extinguishers, strength of (Q. & A.) 103

"FACTS about Fire" issued 866
Falmouth new f. station (ill.) 959
False alarm recorder tested in N. Y. (ill.) 556
False alarms, reducing number of (Round Table) 273, 323
Farmers have chance for adventure 146
Farm f. losses, reducing (edit.) 453
Farm fires cause large losses 110
Federal tests new type siren 418
Film. f. dangers in storing and handling 1185
Film plant f. at Fort Lee, N. J. (ill.) 1005
Finch, Wm., ch. Athens, N. Y., dead 1138
F. alarm designed for industrial use 116
F. alarm hdqrts. & f. sta. in Newton (portr.-ill.) 1096
F. alarm headquarters, new Sioux City (ill.) 557
F. alarm mfgrs., three, consolidate 335
F. alarm, private, in Lewiston, Me. 1090
F. alarm questions (Q. & A.) 193, 237
F. alarm sta. at Huntington, W. Va. (ill.) 772
F. alarm sub-office, new, in Phila. (ill.) 655
F. alarm sys., essentials of (Q. & A.) 1138
F. alarm sys. for Ford Museum (ill.) 854
Fire alarms, latest in 204
F. and police sta., combina., in Pittsburgh (ill.) 1178
F. apparatus accidents, reducing (Round Table) 231
F. apparatus, how much does community need? 76
F. apparatus, old, scrapping (edit.) 935
F. app., old, what is worth? (edit.) 413
F. assn. meetings, how to plan successful 472
F. bills signed in Rhode Island 422
F. boat of Jacksonville (ill.) 96
F. box markers in Jacksonville, Fla. (ill.) 812
F. boxes, telling public about (edit.) 1136
F'bug arrested (portr.) 236
F., campaigning in war against 357
F. Chiefs' Club of Mass. enjoy party 1185
F. commrs. refuse permit (edit.) 769
F. dept. & w. dept., co-operation between (Round Table) 999
F. dept. conventions (Round Table) 591
F. dept. equip. and personnel, relation of, to population 1131
F. d. gasoline, taxing (edit.) 101
F. dept., how far, liable for injury to parked car 315
F. dept. inspections to reduce losses 767
F. dept., rural, how to plan 119
F. dept. salaries in 1929 ..... 322, 361, 411
F. dept. test layout 816
F. dept. zoo in Clovis, N. M. 506
Fire dept. rules and regulations 13, 55, 97, 141, 189, 233, 275, 321, 365, 409, 451, 499
F. dept., sma. city, organiza. of 1169
Fire depts., city, giving rural aid 1089
F. depts. require officers with open minds 1100
F. depts., small, coopera. between (edit.) 191
F. depts., small, training members of 153
F. drill schools, cities that operate 374
F. drill steadiness (edit.) 277
F. drills in institutions, benefit of (edit.) 727
Fire engine, who should test (ill.) 929
F. equipment, "legal" use of 811
F. escape, new, in England (ill.) 872
F. explodes 10 cases of dynamite 236
F. extinguisher shown at air races (ill.) 972
F. extinguisher tests in airplanes (ill.) 954
Fire fan, confession of a (ill.) 927
Fire, 15-year-old 694
F. fighting as seen by an outsider 761
F. fighting, history and evolution of (ill.) 20, 64, 99, 143
F. fighting in national forests (ill.) 777
F. fighting, place of pumpers, in 269
F., fixing liability for 282
F. headquarters, new for Detroit (ill.) 550
F. headquarters of Detroit (ill.) 922
Fire, holding to top floor (ill.) 15
F. hose, care of (Q. & A.) 327
F. hose, proper way to load (ill.) 607
F. hose, termites destroy (ill.) 865
F. house burned in Ocean Grove 1004
F. house not nuisance, court says 181
F. house opened at Wellesley 148
Fire hydrants, color of (Round Table) 767
F. hydrants, who inspects (Round Table) 855
F. ins. cos., liability of (Cor.) 326
F. line raising to 30th floor (Cor.) 96
F. losses of N. Y. Cities (Q. & A.) 860
F. loss, rural, one-third of total 1108
F. makes 2,500 homeless (ill.) 153
Fireman goes to college (ill.) 925
F'man, how best to train 1083
Fireman, how the law helps the 403
F'man killed by express train 971
Fireman's duty? Is ball playing 462
F. marshal position open 858
Firemen, charitable work by (ill.) 921
F'men, giving, extra jobs (edit.) 367
F'men, how trained in Pittsburgh (ill.) 9
F'men or cities, when liable for injuries inflicted 1129
F'men pay, raising by referendum (edit.) 1045
F'men poisoned at box supper 514
F'men, r. r. flares for (edit.) 935
F'men uphold their honor 290
F'men, how can cooperate with dept. head 142
F'men keep child alive with oxygen 102
F'men reconstruct old toys for children (ill.) 19
F'men pension systems 137
F., method of extinguishing (Cor.) 65
F. officers, frequent changes in (edit.) 1177
F. preven., special newspaper for 1005
F. protec. in schools (Cor.) 1051
F'men, unusual perils of (edit.) 639
F'men, vol., calling to f. (Round Table) 495, 544
Firemen's schools, state, organiza. of 723
F., overcoming in coal piles (ill.) 559
F. police, numerous cities have 556
F. prev. and forest conserva. (edit.) 501
F. prev. day, Manila holds 320
F. prev., forest service teaches 640
F. prevention, Fresno active in 1017
F. prev. ideas in hospital design (ill.) 634
F. preven. prize, Detroit wins 296
F. prev. through inspec. (ill.) 93
F. prev. via schools (edit.) 101
F. prev. week and the chief (edit.) 813
F. protective app. wanted (Cor.) 1058
F. prot., rural (Cor.) 154
F. prot. vs. ins. rates (edit.) 1135
F. pump on display at Berlin (ill.) 814
F. school, Nashville to open 1097
F. set to obtain realistic pictures (ill.) 558
Fires, high, fighting, from below (ill.) 1039
Fires, sets 13, to play hero role 975
F. sta. and muni. hall at Clarion, Pa. (ill.) 404
F. sta. in San Clemente (ill.) 850
F. sta., new at Mishawaka (ill.) 876
F. sta., new, Boston plans (ill.) 504
Fire station, new, in Arlington (ill.) 691
Fire sta., new, in Belmont, Mass. (ill.) 60
F. sta., new in Pittsburgh (ill.) 1141
F. sta.,new, in Roswell, N. Mex. (ill.) 428
F. sta. opened in Falmouth (ill.) 959
F. sta. opened in Pittsburgh (ill.) 724
F. sta. opening, death delays (ill.) 1053
F. stations, two, for Austin (ill.) 456
F. streams, conductivity of (Q. & A.) 730
F. streams, their possibilities and limitations 555
F. telephone, new portable (ill.) 866
F. uncovers large distillery 358
Fires, curious (edit.) 593
Fires, fighting, in icy weather 1041
Fires, fighting, under difficulty 1053
Fires, public told of causes of 508
Fires, small town, ventilation at 931
Fires that punish (ill.) 633
Fires where special equipment is needed (ill.) 721
F'works claim annual toll (ill.) 640
F'works do not claim toll in Mich. (Cor.) 684
F'works plant f. 514
First aid work, telephone men give (ill.) 509
Fischer, Sullivan promoted to succeed (portrs.) 285
Fishing between sessions at Fla. S. F. A. conv. (ill.) 328
Flammable liquids—their protection 849
"Flirting with the undertaker' (edit.) 549
Float, f. prev., at Portland (ill.) 680
Flood lights used by f. ins. patrols (ill.) 194
Flood lights on app. in Pasadena (ill.) 454
Floor areas for f. trucks (Q. & A.) 1137
Fla. S. F. A. conv., fishing between sessions (ill.) 328
Flue fires, instructions on 870
Foam generator problems (Q. & A.) 146
Foam streams, range of (Q. & A.) 1179
Fontana, Cal., organizes f. dept 154
Forests, rendering, f'proof (edit) 1177
Ford Museum, f. alarm sys. for (ill.) 854
Forest f. economy (edit.) 57
Forest problems, photographs solve 599
Forests, Cal., apparatus for (ill.) 1013
Forest service has new apparatus (ill.) 825
Forest service teaches f. prev 640
Forests must be protected 636
Ft. Dodge f. loss lowered 98
Ft. Lee film plant f. (ill.) 1005
Ft. Worth plans f. d. improvements 1139
Frame areas and conflagrations (ill.) 493
Fresno active in f. prevention 1017
Furniture store fires (ill.) 675

GAMEWELL appoints Philbrick dist. mgr. (portr.) 779
Gamewell Co. takes over Harrington-Seaberg & Holtzer-Cabot Cos 335
Gamewell employees annual dinner (ill.) 109
Gamewell introduced signal siren 56
Gases, poisonous gases and tank discharge (Q. & A.) 952
Gas mixtures in mines after f. 1055
Gaso. truck fires, etc. (Q. & A.) 1179
Gas sta. fire, fighting (Q. & A.) 369
Gas sta. survey, N. Y. to make 1101
Gas well f. in Cal. (ill.) 62
Gauthier honored in Montreal 18
Germany appreciates her forests 693
Germany, w. f., dept. in (ill.) 63
Gilday, J. J., ch., awarded cup 550
Gillece (Curing America of arson) 853
Glen Cove, N. Y., f'men charged with arson 822
Goldsmith (Place of pumpers in f. fighting) (portr.) 260
Gooderson, N. Y. F. D. honored (portr.) 865
Gordon, G. C., f. commr. of Brighton, N. Y. (portr.) 1097
Grain elevator f. in Omaha (ill.) 817
Grease factory f. (ill.) 505
Greene, Eureka Northwestern mgr 975
Greenwich, Conn., country club damaged (ill.) 189
Groce (Aid to outside towns) 196

HABERSHAM, minister, is f. fighter (ill.) 452
Halt, about time to call a (edit.) 1091
Hampton Beach f. dept. modernized (ill.) 735
Harrisburg f'men complete tour 876
Hay and cotton fires, overhauling (ill.) 253
Hay and grain storehouse fires (ill.) 1127
Hay storage warehouse f. (ill.) 139
Healy, ch. celebrates anniversary (portr.) 1002
Healy, ch. of Denver, praised (portr.) 335
Heat, pumpers, etc. (Q. & A.) 1093
Heat, transmission of (Q. & A.) 19
Heidelberg, Pa., oil refinery f. (ill.) 195
Hemphill, ex-ch. Windsor, Conn., charged with arson 377
Herring, ch., helps clean up Murphysboro (ill.) 636
Herring, ch., injured at f. 1136
Herring, ch.,starts first aid team (ill.) 1142
Herring (Obligations to exhibitors) (portr.) 805
Herring praised by public press 14
Herring's salary reduced (edit.) 413
Highland Park improves f. service 822
Hoboken, N. J., tenement house f. (ill.) 517
Hoisting ladder, boatswain's chair (Q. & A.) 455
Horseshoes, pitch 98
Hose couplings, standardize (ill.) 51
Hose lines, raising (Cor.) 630
Hose, securing, at cornice (Q. & A.) 1179
Hospital, Cleveland, explo., cause of (ill.) 445
Hospital design, f. prev. ideas in (ill.) 634
Hospital horror (edit.) 453
Hospital, U. of Cal., f. (ill.) 1180
Hospital ventilation (edit.) 1001
Hospitals presents many hazards (ill.) 993
Hospitals, safety vs. convenience (ill.) 183
Hotel f., vol. fight (ill.) 95
Hotel, old, fires (ill.) 807
Howland (Organiza. of state firemen's schools) 723
Hoyt, Percy, dead (portr.) 58
Huebotter joins Waukesha Motors 296
Hultman (How f'men can cooperate with dept. head) 142
Hunt, ch., of Weymouth, dead 954
Huntington, W. Va., f. alarm sta. (ill.) 772
Hydrant & hose connec. (ill.-Cor.) 326
Hydrant, capacity of (Q. & A.) 815
Hydrant trouble, no, in Montreal 1138
Hydrant valve, automatic, on market (ill.) 110
Hydrants, discharge from (Q. & A.) 859

ICY weather, fighting fires in 1041
Ignition, spontaneous, and oil fires (Q. & A.) 59
Ill. F. A. conv. plans 373
Ill. F. A. conv. program 779
Ill. F. A. conv. report 863
Illinois Short School tentative program 459
Incendiary fires, over-insurance cause of? (Round Table) 809
Incendiary fires, preventing (Round Table) 363, 407
Incendiary, Newark, sent to jail 634
Indemnity ins. for f'men (edit.) 325
Inflammable liquids in streets, carrying (edit.) 235
Ingomar, Pa., oil tank f. (ill.) 643
Injuries, court awards chief damages for 541
Inspections, f. dept., to reduce losses 767
Inspec., f. prev. through (ill.) 93
Insulation blamed for explosions 326
Insurance for drivers discussed 102
I. A. F. C. announces program (ill.) 770
I. A. F. C. conv. itinerary of Eastern regulars 416
I. A. F. C. conv., make reservation for 858
I. A. F. C. conv. proceedings (portrs.) 997
I. A. F. C. conv. special train to 368

I. A. F. C. conv., Stover special to..... 822
I. A. F. C. directors hold post-conv. meeting 1009
I. A. F. C. display space, applica. invited for (ill.) 521
I. A. F. C. Eastern Regulars final plans.... 580
I. A. F. C. full speed ahead (edit.)..... 1001
I. A. F. C., Mo. Valley Assn., growing..... 1051
I. A. F. C., next place of meeting (edit.)... 935
I. A. F. C. program, changes made in..... 800
I. A. M. E. conv. group on way to (ill.).... 819
I. A. M. E. hold convention..... 778
I. A. M. E. to meet in Boston..... 607
I. A. M. E. to meet in Denver..... 971
Int'l. F'men Assn. group in Paris (ill.)..... 967
Iowa F. School to hold fifth short course.... 374
Italian f'men drilling (ill.)..... 146

JACKSONVILLE f. boat (ill.)..... 96
Jacksonville, Fla., has f. box markers (ill.) 812
Japan forest f., many perish in..... 513
Jaynes, ch., has new car (ill.)..... 188
Johnson, C. M., chief at Knoxville (portr.).. 608
Johnson heads Knoxville dept..... 510
Johnson, T. Howell, dead (portr.)..... 1136
Johnson, T. Howell, recovering..... 1097

KALISPELL prepares for f..... 150
Kansas City, Kan., oil refinery f. (ill.).. 553
Kan. F. School, plans for..... 320
Kansas S. F. A. conv. and short course.... 555
Kennedy, ch. Augusta, married (portr.).... 278
Kinsella (The rescue squad)..... 11
Kenlon, ch., in f. d. 42 yrs. (ill.)..... 228
Knoxville accident, f'man killed in..... 151
Knoxville, ch. Boyd, of, dead (portr.)..... 280
Knoxville f. d. drill school (ill.)..... 936
Knoxville f. dept., Johnson heads..... 510
Knoxville, Johnson, C. M., chief of (portr.). 608

LADDER, exten., raising (Q. & A.)..... 641
Ladder, scaling, drills (Q. & A.)..... 685
Ladders, placement of, and ventilation (Q. & A.) 369
Lane, H. M., appratus builder dead..... 787
Law, new, will curb arsonist..... 1173
Layout, record time for (Cor.)..... 692
Leerburger (Carbon dioxide to smother and cool fires) 509
Legreid (New law will curb arsonist) (portr.) 1173
Lewiston, new private f. alarm sys. in..... 1090
Liability for injury by f. truck..... 673
Lieut., N. Y., exam..... 278
Lima court house f. (ill.)..... 182
Lines, small, problems of (Q. & A.)..... 237
Lines, weight, changing, on ladder (Q. & A.) 327
Little Rock to issue bonds for f. dept..... 777
Lloyds of London presents medals..... 370
London f., unusual photo of (ill.)..... 158
London, Eng., Dockhead f'house in (ill.).... 1099
London roadway torn by blast..... 116
Los Angeles auto show f. (ill.)..... 238
Los Angeles awards 250 diplomas (ill.)..... 192
Los Angeles drill tower (ill.)..... 1170
Los Angeles on 24 hour shift..... 698
Los Angeles roasting plant f. (ill.)..... 144
Los Angeles trains watchmen..... 60
La. S. F. A. to meet..... 814
Loxterman, F. C., dep. ch., dead (portr.).... 644
Lumber and lumber yds. (ill.)..... 447
Lumber yd. f., fighting (Cor.)..... 504
Lumber yd. fire in Braddock, Pa. (ill.)..... 1095
Lynn, Mass., casino block f. (ill.)..... 687

McAULIFFE, ch., wife of, dead..... 1058
McCarrick (Arson committed as long as profitable) 868
McCarthy, Capt., heads battalion list (portr.) 238
McCarthy, Capt., to be honored (portr.)..... 372
McConnell, ex-chief, Buffalo, dead (portr.).. 1188
McElroy (F. fighting as seen by an outsider) 761
McGinley (Refrigeration—hazards and precautions) 1125
McMillan (Aid, mutual, bet. city and town f. depts) (portr.) 1037

MACON Ins. Assn. trophy winners (ill.). 1132
Macon loss overestimated..... 108
Mack truck bldg. f. (ill.)..... 770
Magirus app., where made (ill.)..... 154
Main, discharge through (Q. & A.)..... 59
Main, discharge through (Q. & A.)..... 148
Main sys., capacity of (Q. & A.)..... 415
Maine hit by epidemic of fires..... 698
Maine S. F. A. to hold conv..... 599
Mainzer guest of New England chiefs..... 452
Malden, ch., jumps to save life..... 693
Manhattan, Kan., boy scouts f. prev. work (ill.) 152
Manhole explosions, chiefs consider..... 289
Manlia holds f. prev. day..... 320
Manlia ship afire at sea..... 553
Marriott appointed chief of Quincy..... 459
Martin, ex-drillmaster of Denver, dead..... 816
Mass. chiefs hold outing..... 737
Mass. F. Chiefs' club, architect addresses... 462
Mass. F. Chiefs' Club elects officers..... 458
Mass. F. C. Club meets..... 12
Mass. F. C. Club meets..... 102
Mass. F. C. Club meet..... 1140
Mass. S. F. A. to meet..... 829
Match, fireproof, invented..... 960
Matches still attractive to rats (ill.)..... 560
Mathews, ch. Tampa, killed (portr.)..... 276
Meginnity, E., ex-chief, dead (portr.)..... 774

Mercantile bldg. f. in Elmira (ill.)..... 1139
Merit and efficiency (edit.)..... 501
Miami, ex-ch. Coleman of, dead..... 1048
Miller, ch., of Niagara Falls, dead (portr.). 694
Milwaukee has 776 f'men..... 24
Mine f. comes to surface..... 553
Mine Safety Appliance Co. wins Rice award (ill.) 459
Mine Safety awarded medal..... 242
Mine Safety Co., V. O. Murray with..... 162
Miner theatre destroyed by f'bugs (ill.)..... 731
Mines, gas mixtures in, after fires..... 1055
Minister is all-around f.-fighter (ill.)..... 452
Mishawaka new f. station (ill.)..... 876
Mo. Valley Assn. growing..... 1051
Mobile f'men form drum brigade..... 1187
Monroe (City f. depts. giving rural aid) (portr.) 1089
Montreal Chiefs' Club, Wren heads..... 1197
Montreal, no hydrant trouble in..... 1138
Moral turpitude and f. hazard (edit.)..... 1001
Morgaridge (Loopholes in present arson laws) 679
Motorcycle as f. dept. ambulance (ill.)..... 868
Motor engineers organize in Detroit..... 148
Mt. Clemens, ch. Sawitzky, dead..... 98
Movie studio f. in N. Y. (ill.)..... 1181
Multiple layouts, solving (Q. & A.)..... 595
Murphy, ch., entertained in N. Y..... 63
Murphy, T. R., San Francisco, dead (portr.) 1048
Murray, V. O., with Mine Safety Co..... 162

NANTASKET excursion boats f. (ill.)..... 1183
Nashville to open f. school..... 1097
N. F. P. A. issues program..... 374
Nat'l F. P. A. ready for f. prev..... 779
N. F. P. A. to meet in Atlantic City..... 590
N. F. W. C. planning f'mens schools..... 370
Nat'l F. Waste Council plans schools..... 280
Nat'l F. Waste Council to meet..... 822
N. F. P. A. announces nominations..... 289
National forests, fire fighting in (ill.)..... 777
Neb. S. V. F. A. plans for conv..... 32
Negroes ask for own f. unit..... 975
Newark factory f. (ill.)..... 110
Newark incendiary sent to jail..... 634
Newark, Mack truck bldg. f. in (ill.)..... 770
N. E. A. F. C., Bd. of Directors meet..... 280
N. E. A. F. C. conv. (edit.)..... 501
N. E. A. F. C. conv. exhibit hall (ill.)..... 366
N. E. A. F. C. conv. in June..... 27
N. E. A. F. C. conv. many plan to attend (portr.-ill.) 414
N. E. A. F. C. conv. report (portrs.-ill.).... 587
N. E. A. F. C. list of attendance..... 600
New England convention (edit.)..... 593
New Haven f. dept. (portr.-ill.)..... 491
New Haven Russian bath f..... 386
N. J. & N. Y. Vol. F. A. meet..... 245
N. J. asylum f. (ill.)..... 417
N. J. F. C. A. first quarterly meeting..... 552
N. J. F. C. A. to meet..... 818
N. J. forest f., vol. fight (ill.)..... 119
N. Mex. S. F. A. hold conv..... 814
N. Mex. S. F. A., state may aid..... 330
New Orleans f. d. bathing beauty (ill.)..... 968
New Orleans street cars, rioters burn (ill.). 678
Newport, R. I., business section f. (ill.)..... 518
New Rochelle f. dept. report..... 372
Newton new f. alarm bldg. & f. sta. (portr.-ill.) 1096
N. Y. apt. house f. (ill.)..... 149
N. Y. apt. house f..... 818
N. Y. Bd. of Merit names medal winners... 412
N. Y. business bldg. f. (ill.)..... 553
N. Y. chemical plant explo. (ill.)..... 67
N. Y. chiefs to meet with Mayors..... 410
N. Y. church scaffolding f. (ill.)..... 60
N. Y. depends upon big streams (ill.)..... 736
N. Y. Drill school evolutions modified..... 601
N. Y. duplex w. tower test. (ill.)..... 234
N. Y. f. app., test completed on (ill.)..... 513
N. Y. f'boat bids..... 648
N. Y. f. caused by incendiarism (ill.)..... 863
N. Y. f. college course..... 368
N. Y. f. college ends fall session..... 1184
N. Y. f. d. activities, summary of..... 66
N. Y. F. D., Gooderson, of, honored (portr.) 865
N. Y. f. dept. honors dead (ill.)..... 928
N. Y. f. d. improvements..... 636
N. Y. f. dept. in action (ill.)..... 331
N. Y. F. D., National Board commends..... 1002
N. Y. F. D. officers, Dougherty gives advice to 728
N. Y. f. d. officials inspect new app. (ill.).. 458
N. Y., Fire Marshal Prial of, dead..... 648
N. Y. f'men outside first grade rating, raises urged for..... 1190
N. Y. f'men to get increase..... 1038
N. Y. f'men warned..... 154
N. Y. f. school, luncheon ends (ill.)..... 601
N. Y. f. prev. bu., problems of..... 1092
N. Y. gaso. explo. in garage (ill.)..... 14
N. Y. gaso. truck co. charges, with patent monopoly 65
N. Y. installs w. tower with double mast (ill.) 199
N. Y. issues f. report..... 230
N. Y. lieut. examination questions..... 278
N. Y. loft bldg. f. (ill.)..... 105
N. Y. loft bldg. f. (ill.)..... 151
N. Y. loft bldg. f. (ill.)..... 1094
N. Y. movie studio f. (ill.)..... 1181
N. Y. night club f. (ill.)..... 22
N. Y. night club f. (ill.)..... 105
N. Y. night club f. (ill.)..... 1144
N. Y. officers to inspect bldgs..... 651

N. Y. pension head dead..... 199
N. Y. presents f. medals (ill.)..... 552
N. Y. row of stores destroyed by f. (ill.)... 1194
N. Y. seeks amendment to fight forest f. (edit.) 813
N. Y. sells old apparatus..... 289
N. Y. standpipe rules.....23, 67, 112, 158, 246, 378, 465, 510, 560, 656, 694
N. Y. S. F. C. A. to meet in Binghamton.. 410
N. Y., tank truck approved in..... 372
N. Y. tenements, five fires in..... 200
N. Y. test false alarm recorder (ill.)..... 556
N. Y. theatre f. (ill.)..... 542
N. Y. to build electric drive f'boat..... 286
N. Y. to make gas sta. survey..... 1101
N. Y. underwriters to make survey..... 328
N. Y. unfinished apts. destroyed (ill.)..... 602
Niagara Falls, ch. Miller of, dead (portr.). 694
Nitric and sulphuric acids (Q. & A.)..... 52
Noble (Manhattan, Kan. boy scouts in f. prev. work) (ill.)..... 152
Noll, ch., heads exam. list..... 65
Norfolk has f'boat (ill.)..... 157
No. Attleboro, R. C. Robertson, new chief. 1142
N. Car. S. F. A. planning school..... 245
Northwest f. school to meet at U. of Minn. 722
Norwich f. d., H. R. Taft, new chief (portrs.) 594
Nozzle designed in Edinburgh (ill.)..... 151
Nozzle, flexible, ch. O'Hanlon designs (ill.) 1106
Nozzle pressure and range of stream (Q. & A.) 19
Nozzle pressure on elevated lines (Q. & A.) 1003
Nozzle pressures, different, of branch lines (Q. & A.)..... 1003
Nozzles, etc., use of (Q. & A.)..... 503
Nozzles, large, discharge from (Q. & A.).. 551

OAKLAND reduces its f. losses..... 806
Ocean City amusement resort f. (ill.).... 1095
Ocean Grove, fire house in, burned..... 1004
O'Donnell (Protect stock from w. damage). 776
O'Hanlon, ch., designs nozzle (ill.)..... 1105
O'Hearn host to Box 52 Group..... 110
Ohio F. C. A. convention report (ill.)..... 554
Ohio F. C. A. to meet in Sandusky..... 459
Oil barge f. (ill.)..... 832
Oil company fined for negligence (edit.)..... 813
Oil, crude, tank boil-overs (Q. & A.)..... 503
Oil explo. at plant of Sun Oil Co. (ill.)..... 567
Oil f., another in Cal. (ill.)..... 505
Oil fires and spontaneous ignition (Q. & A.) 59
Oil fires, fighting (ill.)..... 317
Oil soaked floors make big losses (ill.)..... 1171
Oil station explo. (ill.)..... 932
Oil station explo. (ill.)..... 1038
Oil train f. (ill.)..... 12
Oil well f. (ill.)..... 23
Oil well f. at Santa Fe Spgs. (ill.)..... 773
Okla. S. F. A. conv. program..... 594
Olson, ch. of Red Wing, dead..... 818
Omaha, ch. Coyle of, dead..... 414
Omaha elevator f. (ill.)..... 817
Out-of-town calls, responding to (Round Table) 681, 724
Outside runs, limiting (edit.)..... 145
Over-insurance cause of incendiary fires? (Round Table) 809

P. C. A. F. C. conv. account..... 692
P. C. A. F. C. conv. program..... 513
P. C. A. F. C. to meet in July..... 414
Pacific Coast Chiefs issue treatise..... 734
Paris to have apparatus exhibition..... 320
Parker (Cities or f'men, when liable for injuries inflicted) 1129
Parker (Court awards chief damages for injuries) 541
Parker (Court says f. house not nuisance). 181
Parker (How far f. dept. is liable for injury to parked car)..... 315
Parker (How the law helps the fireman)... 403
Parker, (Liability for injury by f. truck)... 673
Parker (Pensions, compensations and the law) 227
Parker (What is "legal" use of f. equipment) 811
Parker, P. H., heads Box 52 Assn..... 1095
Parking ban, is, solution of traffic prob? (edit.) 325
Parking evil, eliminating..... 1148
Parking violation tickets without fines (edit.) 1135
Pasadena negroes ask for own f. unit..... 975
Pasadena places coffee car in serv. (ill.).. 104
Patterson (How Pittsburgh firemen are trained) (ill.)..... 9
Patterson (New f. sta. in Pittsburgh) (ill.). 1141
Patterson (Pittsburgh f'men get salary increase) 1086
Patterson (Pittsburgh gaso. truck f.) (ill.).. 229
Pearse stages "Battle of the Flames"..... 651
Peat land, burning, extinguishing (ill.)..... 832
Pensions, compensations and the law..... 227
Pension tax levied in San Antonio..... 642
Personal liability for f. (edit.)..... 277
Phelps pickling works destroyed (ill.)..... 58
Phila. f. losses increase..... 462
Phila. f'men perform..... 1188
Phila. four-alarm f. (ill.)..... 1184
Phila. lumber yd. f. (ill.)..... 875
Phila. new f. alarm sub-office (ill.)..... 655
Phila. river warehouse f. (ill.)..... 784
Philbrick in charge of Pacific sales (portr). 779
Pier f. in Portland (portr.-ill.)..... 861
Pier sheds make hot fires (ill.)..... 589
Pittsburgh combined f. and police sta. (ill.) 1178
Pittsburgh f'men get salary increase..... 1086
Pittsburgh f'men, how trained (ill.)..... 9
Pittsburgh, f. sta. opened in (ill.)..... 724

Pittsburgh, new f. sta. in (ill.) 1141
Pittsburgh gaso. truck f. (ill.) 229
Pittsburgh, new pumping for (ill.) 462
Planes, damaged, burn very rapidly (ill.) 741
Plattsburgh, N. Y. normal school f. (ill.) 564
Pneumatic tires, life of (Q. & A.) 60
Police duty for f'men (Cor.) 684
Portland pier f. (portr-ill.) 861
Port Richmond lumber yd. f. (ill.) 329
Poughkeepsie dye plant f. (ill.) 732
Powder plant, how, looks to layman 783
Prairie f. spreads 30 miles 326
Prescott with Buffalo Appliance 459
Pressure, atmospheric (Q. & A.) 103
Pressure to reach fourth floor (Q. & A.) 103
Prial, F. marshal, N. Y., dead 648
Prison fires (ill.) 719
Prison housing from f. standpoint (edit.) 1045
Prison riots and f. depts. (edit.) 683
Prisoner freed as rescue reward 27
Private care, menace of at fires (edit.) 1177
Promotional questions (Q. & A.) 686, 729
Providence has new f. sta. 556
Public bldgs., safeguarding (edit.) 639
Public, making contact with 677
Pump, how high can, draught water? (Q. & A.) 772
Pump pressure, formulas for (Cor.) 454
Pumper, capabilities of (Q. & A.) 1137
Pumper in tandem with high pressure hydrant (Q. & A.) 369
Pumper, modern, forerunner of (ill.) 674
Pumper or increased pressure? (edit.) 1091
Pumper, would a, help? (Q. & A.) 455
Pumpers, place of, in f. fighting 269
Pyrene Mfg. Co., Weed joins 66

QUIGLEY, P. J., pension head, dead 199
Quincy, Ch. Yates car crashes (ill.) 286
Quincy, Marriott appointed chief of 459

RADIO interference (Q. & A.) 772
Railway agents turn inspectors 110
Railway F. P. A., program 855
Rankin, ch., son of, dead 1086
Reading gaso. f. (ill.) 853
Red Wing, ch. Olson of, dead 818
Reed, D., head of Denver f. alarm, dead 1102
Refrigeration hazards and precautions 1125
Refrigeration, modern, f. dangers of 717
Rescue squad, what it does 11
Resuscitation practice urged 932
Rhode Island, 5 fire bills signed in 422
R. I. vol. f'men, changes to benefit 16
Rice award, Mine Safety Appliance Co. Wins (ill.) 459
Ridgefield Park hotel f. 153
Rockland, Mass., has big f. (ill.) 105
Roads, good, bring better f. prot. to rural sections 253
Roanoke warehouse f. (ill.) 371
Robertson, R. C., new ch. of No. Attleboro 1142
Robot f'man operated by elec. (ill.) 414
Rockland Co., violations reported in 374
Roof work—its purpose (ill.) 319
Roswell, N. M., new fire station (ill.) 428
Round Table (edit.) 191
Rule, new, saves lives in Boston 1042
Rural aid, city f. depts. giving 1089
Rural f. dept., how to plan 119
Rural f. loss, one-third of total 1108

SAFETY device, Cincinnati school teacher demonstrates (ill.) 550
Saginaw city block f. (ill.) 630
St. Malachy school f. (ill.) 366
St. Petersburg hotel damaged 289
Salaries, f. dept., in 1929 322, 351, 411
Salary increase, Pittsburgh f'men get 1085
Salary raises for f'men (edit.) 683
Salvage Corps Assn. to meet 972
Salvage Corps of Worcester, Mass. (ill.), 497, 547
Salvage covers help reduce f. loss 109
Salvage patrol, forming 144
Salvage work, is, justified? 53
Salvage work, should muni. f. depts. do (Round Table)
San Antonio extends f. alarm sys. 330
San Antonio improves f. alarm 642
San Antonio, pension tax levied in 642
San Antonio, Tex. fire budget reduced 635
San Bernardino warehouse f. (ill.) 1008
San Clements f. station (ill.) 850
San Francisco, ch. Murphy of, dead (portr.) 1048
San Francisco, searchlight plant in (ill.) 718
Santa Fe Spgs. oil well f. (ill.) 773
Sawitzky, ch. Mt. Clemens, dead 98
Sayre, Pa., f. dept. may resign 245
Scaffold fires, eliminating 162
Scaffolding fires becoming common (ill.) 141
School bldgs. (ill.) 851
Schools, f. protec. in (Cor.) 1051
Schulte (Menace of sliding pole (ill.) 923
"Science in f. fighting" (Q. & A.) 369
Scott (Making contact with public) (portr) 677
Scott, pres. I. A. F. C. outlines activities (portr) 996
Scranton two-alarm f. 687
Searchlight plant in San Francisco (ill.) 718
Searchlights presented to N. Y. (ill.) 1052
Seattle down town dist. f. (ill.) 555
Seattle f'boat "Alki" (ill.) 358
Sebring f'men offer services to city 462
Sectional schools for small depts. (edit.) 325
Sewer explosions, preventing 832
Sharon, DeForest Block, f. (ill.) 150
Shears that cut through iron bars (ill.) 642
Sheedy, Capt. celebrates anniversary 737
Shepperd (F. streams, their possibilities and limitations) 555
Shepperd (History and evolution of f. fighting) (ill.) 20, 64, 99, 143
Ship fires (ill.) 763
Short school for f'men (edit.) 277
Shreveport negro guilty of arson charges 280
Signal siren introduced by Gamewell 56
Sioux City, new f. alarm headquarters (ill.) 557
Siphon type of extinguisher on market 378
Siphon undergoes severe test 66
Siren, new type, tested by Federal 418
Skyscraper standpipe tested (ill.) 734
Sliding pole, menance of (ill.) 923
Smoke house hazard, ways to eliminate 779
Smoking, women, increase f. loss 959
Soda-acid extinguisher, new (ill.) 465
Solution, approximate (Q. & A.) 1137
So. Cal. F. C. Club plan program 1142
S. Dak. F. C. A. conv. program 461
S. E. F. C. A meet 1013
S. E. F. C. A. to meet 590
S. E. A. F. C. to meet in Birmingham 822
Southern Cal. Chiefs meet 184
Southwestern chiefs conv. program 203
S. W. F. C. A. meet 285
Snow, where, is not unmixed evil (edit.) 145
Southwestern chiefs to meet in Shreveport 66
S. W. A. F. C. to meet in March 152
S. W. F. C. A. conv. photo 316
Spencer, B. W., presented with watch 867
Spontaneous ignition of animal oils (Q. & A.) 416
Sprinkler sys. puts out fires in airplane hangars (ill.) 1098
Standardization of bldg. exits 1140
Standpipe in Grant bldg., Pittsburgh, tested (ill.) 778
Standpipe layout, engine pressure for (Q. & A.) 730
State firemen's schools, organiza. of 723
Staten Island volunteers replaced 58
Static causes fires in cotton gins 742
Static electricity on belts, cure for 735
Steam f. engine model for sale (ill.) 936
Stephen (Ventilation at small town fires) (portr.) 931
Stillman yacht destroyed by explo. 642
Storehouse, hay and grain, fires (ill.) 1127
Stores, f. in, during Christmas season (Round Table) 133
Stover special for Birmingham 822
Stream range formulas (Q. & A.) 415
Stream, range of (Q. & A.) 193
Stream, range of, and nozzle pressure (Q. & A.) 19
Stryker, ex-ch., of Princeton, dead 510
Studio f. in Hollywood 371
Studios, better f. prot. for (ill.) 693
Subway f. in L. I. City (ill.) 1186
Suction, large, advantages of (Q. & A.) 641
Sullivan to succeed Fischer (portrs.) 285
Sulphuric and nitric acids (Q. & A.) 952
Syracuse, ch. Coombs of, dead (portr.) 1011

TACOMA, Wash., three new f. houses for (ill.) 373
Taft, H. R., new chief Norwich f. d. (portrs.) 594
Taft to bid for Cal. f'men conv 230
Tampa, Ch. Mathews of, killed (portr.) 276
Taplin (Organiza. of sma. city f. d. (portr.) 1169
Tar in chimney (Q. & A.) 595
Tar tank f. in Manistique 1133
Taylor, asst. chief of Des Moines, dead 975
Taylor (Fighting oil fires) (ill.) 317
Telephone co. aids forest conserva. (ill.) 72
Telephone, new portable (ill.) 866
Telephone typewriter sends alarm 734
Tenement, old, a life trap (ill.) 359
Termites destroy f. hose (ill.) 865
Termites may cause explo. 829
Terrell, J., appointed ch. of Atlanta (portr.) 1138
Test fire engine, who should (ill.) 929
Theatre fires (ill.) 995
Thief poses as N. Y. f'man 109
Tire inflation pressure (Q. & A.) 551
Tire yard f. in Chelsea (ill.) 776
Tires, pneumatic, lift of (Q. & A. 60
Toledo elevator f. (ill.) 762
Tomahawk, 19 bldgs. destroyed in (ill.) 689
Toronto cathedral f. (ill.) 457
Tournaments and the f. hazard (edit.) 549
Tower designed as f. escape 459
Towns, protec., situated in forest areas (edit.) 769
Toxic gases at Cleveland disaster (Q. & A.) 596
Toys, repairing for Christmas (edit.) 17
Traffic and the f. dept. (edit.) 57
Traffic congestion to speed up app. (Round Table) 449
Transformer f. (Q. & A.) 1047
Tulsa adds 31 men to f. force 1148
Two-platoon sys., is your dept. operated on (Round Table) 1175

UNDERWRITERS to make survey of N. Y. 328
Union Pacific dock blaze (ill.) 687
U. of Cal. Hospital f. (ill.) 1180
Utica school trains instructors (ill.) 412

VANCOUVER, B. C., f'boat (ill.) 140
Ventilation at small town fires 931
Ventilation, problem of (Cor.) 684
Ventilation would have helped (ill.) 187
Vents., f., automatic, to save life 629
Va. wants firemen's schools 866
Vol. f'men fight hotel f. (ill.) 95
Vol. dept., small (edit.) 857
Vol. f'men must select proper leader 567

WALDRON (Campaigning in war against f.) (portr.) 357
Waldron (Frequent drills should be held) 635
Walker (Flammable liquids) 848
Wallace, ch., Wilkinsburg, dead 550
Walsh, ex-ch., heads Boston patrol (portr.) 1142
Walsh (F. depts. require open-minded officers) (ill.) 1100
Ward (How best to train new f'man) 1083
Warehouse f., fighting (ill.) 543
Warehouse f. in Phila. (ill.) 784
Warehouse f. in San Bernardino (ill.) 1005
Warehouse f. in Worcester (ill.) 1049
Wash., D. C., four-story bldg. f. (ill.) 1143
Washington f'men parade (ill.) 864
Watch Hill saves summer homes (ill.) 1052
W. damage, forgetting (ill.) 1085
W. damage, protect stock from 776
Water, drafting (Q. & A.) 771
Water, how high can pump draught? (Q. & A.) 772
W. tower with double mast for N. Y. (ill.) 199
Watson, ch., Athens f. dept., dead 1136
Waukesha motors, Heubotter joins 296
Weather sta. aids f. fighters (ill.) 732
Webster, ch. at Willimantic (portr.) 421
Webster, ch. of Willimantic, Conn 230
Webster, ch. of Willimantic f. dept. dead (portr.) 1185
Weed joins Pyrene Mfg. Co 66
Wellesley new f. station 148
Westchester chiefs discuss mutual f. aid sys. 296
Westchester Co. chiefs discuss mutual aid questions 377
Westchester Co., N. Y., chiefs consider emergency aid plan 192
W. Va. considering arson law 104
Weymouth, ch. Hunt of, dead 954
Weymouth, J. R. Bacon, new ch. of f. d. 1144
Wheaton church f. (ill.) 462
Wilkins, J. T., Ch., on world trip (portr.) 779
Wilkinsburg, ch. Wallace of, dead 550
Williams (Curbing arsonists) 733
Williamsburg, new pumper for (ill.) 200
Willimantic, Webster, ch. at (portr.) 421
Willimantic, ch. Webster of, dead (portr.) 1185
Winnipeg claims youngest f. chief (portr.) 502
Wis. short course for f'men held 556
Wis. S. F. C. A. formed 1128
Wood, G. A., ch. of Niagara Falls 737
Woolworth tower, tourists trapped in 66
Worcester, Mass., Salvage corps (ill.) 497, 547
Worcester warehouse f. (ill.) 1049
Worth, dep. ch., N. Y., retired 972
Wren heads Montreal Chiefs' Club 1197
Wyo. S. F. A to meet in July 458

YATES, ch. Quincy, car of, crashes (ill.). 286

929
995
109
551
776
60
762
689
457
549
459

769
596
17
57

449
1047
1148

1175

328
687
1180
412

140
931
684
187
629
866
95
857
567

357
635
848
550
1142

1100
1083
543
784
1005
1049
1143
864
1052
1085
776
771

772
199
1136
296
732
421
230

1185
66
148
296

377

192
104
954
144
462
779
550
733
200
421
185
502
556
128
737
66
547
049
972
197
458

286